

ABSTRACT

A catalytic gas turbine includes a compressor, a catalytic combustor, a turbine, and a flow path conducting a bypass portion of the compressed air around the combustor and turbine. A method of operating the catalytic gas turbine to activate a catalyst in the catalytic combustor includes opening an inlet guide vane upstream of the compressor to a position to produce an increased volume of compressed air. The increased volume exceeds a volume of compressed air needed to support combustion. A bypass portion of the compressed air is extracted and directed around the combustor and turbine. The method may also include extracting a recirculation portion of the compressed air and directing the recirculation portion into the inlet of the compressor.